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NSY PORTSMOUTH  
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U S NAVY RESPONSES TO U S EPA REGION I AND MAINE DEPARTMENT OF  
ENVIRONMENTAL PROTECTION COMMENTS ON DRAFT RECORD OF DECISION FOR  
OPERABLE UNIT 1 (OU 1) NSY PORTSMOUTH ME  
9/10/2010  
TETRA TECH

**RESPONSES TO USEPA COMMENTS DATED AUGUST 25, 2010**  
**DRAFT RECORD OF DECISION FOR OPERABLE UNIT 1**  
**PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE**

1. **Comment:** Pg. 2, § 1.5, *Statutory Determinations*: The conclusion in the last sentence of the first paragraph (Navy's conclusion that it's impracticable to treat COCs in a cost-effective manner) should appear in the ROD discussion in § 2.12.1.

**Response:** The referenced sentence from Section 1.5, *Statutory Determinations*, listed below, will not be added to Section 2.12.1, *Rationale for Selected Remedy* because the sentence discusses why treatment was not included in the selected remedy and does not support why the remedy was selected. The information in the referenced sentence will be added will be added to Section 2.13, *Statutory Determinations*, which discusses why treatment is not included in the selected remedy. The following provides the revisions to the fourth bullet in Section 2.13:

**“Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable** – The Selected Remedy represents the maximum extent to which permanent solutions and alternative treatment technologies can be used in a practical manner at OU1. Based on the type and location of contamination at OU1 (*lead and antimony*), *the location of the contamination within the crawl space beneath a building*, and the small volume of contaminated soil being removed, *the Navy concluded that it was impracticable to treat the COCs in a cost-effective manner* ~~in-situ treatment alternatives were screened out during the technology screening phase of the FS.~~ Limited excavation and off-site disposal provides the best balance of tradeoffs for long-term effectiveness and permanence with ease of implementation for reasonable cost.”

2. **Comment:** Pg. 12, § 2.5.2, *last paragraph*: Please clarify the last sentence.

**Response:** The following text revisions will be made to clarify the text in the last paragraph of Section 2.5.2:

*“Current occupational workers (production workers at Building 238) are not exposed to soil or groundwater because of the asphalt covering the soil outside Building 238 and because the crawl space under Building 238 is not accessible to anyone other than construction workers. There are no current recreational or residential uses of the site. Occupational, recreational, or residential exposure to site contamination could occur if current site features, including asphalt paving and Building 238, were removed or modified exposing soil. ~~Current site features, including asphalt paving and Building 238, would need to be removed or modified exposing soil for occupational, recreational, or residential exposure to site contamination.~~”*

3. **Comment:** Pg. 13, 1<sup>st</sup> Full Paragraph: The discussion in this paragraph is incomplete. While the solubility of lead in groundwater may be limited, it is not the only controlling variable to the migration of lead to the off shore environment. Migration of lead adsorbed to fine grain soil matter is a potential medium of contaminant transport at this site due to the shifting/settling nature of the fill material. Please include text describing this potential migration pathway.

**Response:** Total and dissolved concentrations of lead in groundwater were less than action levels for potential adverse impact to the offshore, indicating that mobilization of lead from soil to groundwater in both dissolved and fine-grained soil particulate forms is limited at OU1. The text will be clarified as follows:

“Site conditions and groundwater concentrations support that there is limited *mobility* of lead from soil to groundwater (*in either particulate or dissolved form*) and that site groundwater migrating to the offshore would not adversely impact the offshore. Therefore, no environmental impacts are expected to occur because of migration of groundwater from OU1 to the offshore.”

4. **Comment:** Pg. 13, § 2.6, last sentence: Please change “consisted” to “consistent”.

**Response:** The requested change will be made to the text.

5. **Comment:** Pg. 13, § 2.7.1, last paragraph, 2<sup>nd</sup> sentence: Please elaborate and clarify this statement.

**Response:** The text will be revised, as shown below, to clarify that the USEPA-recommended value of 800 mg/kg for commercial/industrial sites was used as the screening value for lead in soil for industrial sites during the selection of COPCs.

“For lead, the USEPA-recommended values of 400 mg/kg for lead-contaminated soil in a residential setting where children are frequently present (1994) and *800 mg/kg for commercial/industrial sites* were used as the screening values for lead in soil for residential and industrial use, respectively. ~~USEPA recommends a screening value of 800 mg/kg for commercial/industrial sites and 2,000 to 5,000 mg/kg as an appropriate range for areas where contact with soil by children in a residential setting is less frequent.~~ Lead screening values for other receptors were determined using a modeling program as discussed further in the Toxicity Assessment.”

6. **Comment:** Pg. 14, § 2.7.1, first paragraph, 5<sup>th</sup> sentence: Please elaborate and clarify this statement.

**Response:** The text will be revised as follows to clarify the depth to the water table outside the building and in the crawl space:

“The HHRA evaluated risks for exposure to surface soil [0 to 2 feet below ground surface (bgs)] and surface and subsurface soil above the water table (to a ~~maximum~~ depth of 6 feet bgs) outside the building and a *depth of 1 to 2 feet bgs* in the crawl space). *The depth to the water table differs by approximately 5 feet because the ground surface outside the building is approximately 5 feet higher than the ground surface in the crawl space.* ~~However, the ground surface elevation in the crawl space under the building is approximately 5 feet lower than the ground surface elevation outside the building.”~~

7. **Comment:** Pg. 14, § 2.7.1, last paragraph, 1<sup>st</sup> sentence: Please change “provides” to “provide”.

**Response:** The requested change will be made to the text.

8. **Comment:** Pg. 15, § 2.7.1, 3<sup>d</sup> sentence: Please add "...of the population." to the end of the sentence.

**Response:** The 4<sup>th</sup> sentence of the referenced paragraph will be revised to read "In addition, the USEPA goal is to limit the risk (i.e., probability) of exceeding a 10 µg/dL blood-lead concentration to 5 percent *of the population*."

9. **Comment:** Pg. 17, § 2.7.1, Risk Characterization, 4<sup>th</sup> paragraph, 3<sup>d</sup> sentence: Please change "...exposure to toxicity..." to "...the exposure dose to its RfD..."

**Response:** The requested change will be made to the text.

10. **Comment:** Pg. 17, § 2.7.1, Risk Characterization, last paragraph, 1<sup>st</sup> sentence: Please delete "the".

**Response:** The requested change will be made to the text.

11. **Comment:** Pg. 17, § 2.7.1, Risk Characterization, last paragraph, 3<sup>d</sup> sentence: Please elaborate and clarify this statement.

**Response:** The last paragraph on page 17 will be replaced with the following paragraph to clarify the risk results:

*"Tables 7.1 through 7.12 in Appendix D provide RME non-cancer HQs for the receptors and routes of exposure, and total HIs for these routes of exposures calculated in the HHRA. Total HIs for these routes ranged from 0.0008 for recreational adult users to 0.5 for construction workers. The cumulative HIs were less than unity (1.0) for these receptors indicating that adverse non-carcinogenic health effects are not anticipated for these receptors under the defined exposure conditions. Non-cancer HQs and HIs for hypothetical future receptors exposed to soil in the crawl space were also calculated. Only the HI for a hypothetical future resident exposed to soil in the crawl space had an HI greater than unity due to antimony concentrations in soil, indicating the potential for adverse non-carcinogenic health effects for this receptor."*

12. **Comment:** Pg. 18, § 2.8, Remediation Goals: Please provide a reference or citation for the established remediation goals.

**Response:** The text will be revised as follows:

*"The lead remediation goals, for construction and occupational workers and recreational users and antimony remediation goal for resident, for exposure to soil within the crawl space were developed in the OU1 FS based on the risk assessment and established for lead and antimony in soil within the crawl space under Building 238. The remediation goal for future resident for exposure to lead within the crawl space and outside the building is based on the Office of Solid Waste and Emergency Response (OSWER) soil screening level of 400 mg/kg for residential land use (USEPA, July 1994).*

The following remediation goals were established for lead in soil within the crawl space under Building 238:"

13. **Comment:** Pg. 20-21, Table 2-5: Alternatives 2-4 include implementation of requirements for management of excavated soil during future construction activities. But occupational workers also have an unacceptable risk; what measures would protect them? (Same issue occurs on page 25, in detailed description of selected remedy.)

**Response:** No changes will be made to the text. As shown on Table 2-3, risks are acceptable for the occupational worker exposure to soil outside Building 238; therefore, no action is necessary to protect occupational workers from exposure to soil outside the building. Risks to occupational workers associated with exposure to soil under Building 238 were unacceptable. However, the pathway for exposure would only be present if the building was removed or modified.

14. **Comment:** Pg. 22, Table 2-6: Please change “Long-Term Effectiveness and *Performance*” to “Long-Term Effectiveness and *Permanence*.”

**Response:** The requested change will be made to the text.

15. **Comment:** Pg. 22, Table 2-6: EPA questions the idea that Alts. 4 & 5 have the same long-term effectiveness & permanence. Alt. 5 is a one-time excavation; Alt. 4 requires maintenance of LUCs and access restrictions indefinitely. Perhaps Alt. 4 has “medium” long-term effectiveness/permanence?

**Response:** The Navy respectfully disagrees that a change is needed to Table 2-6. This same information was provided in the OU1 PRAP (June 2010) and is based on information in the OU1 FS Report (June 2010). The USEPA has accepted these documents as final and similar comments were not received on these two documents. The comparison of remedial alternatives is to the nine CERCLA evaluation criteria and not to the other remedial alternatives. While Alternative 5 may be the most effective in the long term, as stated in the text on page 23, “Alternative 4 would provide long-term effectiveness and permanence by removing contaminated soil so that residual concentrations are at acceptable levels for current and future planned industrial uses. LUCs would be implemented to restrict future hypothetical residential use and five-year reviews conducted to evaluate the continued adequacy of the remedy.” Therefore, the evaluation as provided in Table 2-6 is correct.

16. **Comment:** Pg. 23, 2<sup>nd</sup> paragraph, 3<sup>rd</sup> sentence: Delete “of”.

**Response:** The requested change will be made to the text.

17. **Comment:** Pg. 23, *Short-Term Effectiveness*: It’s not accurate to say that Alts. 2-4 would achieve RAOs within 1 year but Alt. 5 would take 3-4 years. The way that Alts. 2-4 achieve RAOs within 1 year is because of the LUC, si.e., banning people from contacting the contaminated soil. Alt. 5 could be made to include temporary LUCs pending completion of the excavation, and thereby “achieve” the RAOs at the same time as Alts. 2-4.

**Response:** The Navy respectfully disagrees that a change is needed to the discussion of short-term effectiveness on page 23. While a change to add temporary LUCs to Alternative 5 could be made, it would not be consistent with the information that was provided in the OU1 PRAP (June 2010), which was based on information in the OU1 FS (June 2010). The USEPA has accepted these documents as final, and similar comments were not received on these two documents. As provided in the FS and presented to the public in the PRAP, Alternative 5 does not include temporary LUCs and therefore would not

meet RAOs at the same time as Alternatives 2 through 4. The appropriate time for the USEPA to comment on components in the alternatives would be during the FS stage.

18. **Comment:** *Pg. 24, § 2.11:* Given that lead is highly toxic, but not highly mobile, please discuss why lead is not a Principal Threat Waste.

**Response:** According to A Guide to Principal Threat and Low Level Threat Wastes (USEPA, 1991) (above Highlight 3 on page 2), “the principal threat/low level threat waste concept and the NCP expectations were established to help streamline and focus the remedy selection process, not as a mandatory waste classification requirement. Therefore, the classification of materials at OU1 as principal or low-level threat wastes is not meaningful at this point in the CERCLA process (documentation of selected remedy). However, discussion of principal threat wastes, if present, is a requirement per USEPA’s ROD guidance. Based on an evaluation of the information in the USEPA guidance (1991) as to what constitutes a principal threat waste, the Navy believes that contaminated soil at OU1 is more appropriately classified as a low-level waste based on the low mobility of lead “in the specific environmental setting” and the identification of the greatest level of contamination (and associated risk) in an area the crawl space beneath the building (an area that is extremely unlikely to be available for surficial exposure in the future). This determination was based on the following information:

- According to USEPA (1991) (Highlight 3), “Waste that generally will be considered to constitute low level threat wastes include, but are not limited to: Non-mobile contaminated source material of low to moderate toxicity – surface soil containing contaminants of concern that generally are relatively immobile in air or groundwater (i.e., non-liquid, low volatility, low leachability contaminants such as high molecular weight compounds) in the specific environmental setting.”
- As stated at the bottom of the first column of page 2 of the guide, “Determination as to whether a source material is a principal or low level threat waste should be based on the inherent toxicity as well as a consideration of the physical state of the material (e.g., liquid), the potential mobility of the wastes in the particular environmental setting, and the lability and degradation products of the materials.”

Although it is not clear based on information in the guide that contaminated soil at OU1 constitutes a “source material,” and “surface soil” is not the medium of greatest concern, there appears to be general agreement that the lead in soil is “relatively immobile air or groundwater ... in the specific environmental setting.” Surface soil is covered by asphalt or a building, the most contaminated soil is the least accessible, and migration to groundwater and migration via wind or runoff is minor at most. With respect to the second bullet above, regardless of the toxicity of lead (which the Navy believes is better characterized as “moderate”), considerations of the other issues (physical state, mobility, lability) do not support the classification of OU1 soil as a principal threat waste. Based on the selection of the remedy as documented in the ROD, it appears that the stakeholders are in agreement that the COCs can be “reliably contained” (appropriately addressed by a cover, LUCs, etc.) supporting a classification as a low level threat waste.

19. **Comment:** *Pg. 24, Section 2.12.1:* This section explains why Alt. 4 is good, but it doesn't really explain why Alt. 4 is the best alternative, specifically, why it's better than Alt. 5. Alt. 5 surpasses Alt. 4 in long-term effectiveness & permanence, since it doesn't rely on LUCs to be maintained for many years, and Alt. 5 may also surpass Alt. 4 in reduction through

treatment (if the soil needs treatment to be disposed of, since there's more to be disposed in the first place). Alt. 4 beats Alt. 5 in implementability, cost, and perhaps short-term effectiveness.

However, there is insufficient explanation as to why the extra \$5 million and associated hassle isn't justified. The statement that Alt. 4 provides "the greatest" long-term effectiveness cannot be correct; complete excavation provides the greatest long-term effectiveness and permanence since it does not require LUCs as part of the remedy. Perhaps a more straightforward explanation would be that to say explicitly: while Alt. 5 has greater long-term effectiveness/permanence (and possibly reduction through treatment) than Alt. 4, the increased dollar costs, short-term impacts (and disruption to facility operations, and implementability concerns associated with a complete excavation are not justified by the superior long-term effectiveness given that the Navy intends to continue using this site as an active, secured industrial facility for the foreseeable future. See also point above regarding §1.5.

**Response:** The Navy respectfully disagrees that revision to the rationale for the selected remedy to compare Alternative 4 to Alternative 5 is needed and no changes will be made to the text. Section 2.12.1 *Rationale for Selected Remedy* describes the reasons why Alternative 4 was chosen as the Selected Remedy. Information regarding Alternative 4 and other Alternatives is provided in the Section 2.10 *Comparative Analysis of Alternatives*. In addition, the information in the statement that the USEPA is requesting be added (cost, short-term impacts, and future site use) is already in Section 2.12.1. For example, the last bullet discusses similar protection at a significantly lower cost than full-scale removal. The first bullet discusses disturbance to current facility operations and the second bullet discusses reasonably anticipated future industrial use of the site.

Also, the text does not state that Alternative 4 provides "the greatest" long-term effectiveness. This statement is taken out of context. The text states that the Selected Remedy "...provides the greatest long-term effectiveness for current and planned future industrial use of the site..."

20. **Comment:** Pg. 25, end of description of selected remedy: To ensure timely next action, the ROD should reference a timeframe for the Navy to submit a plan (including not just the excavation, but also the LUCs and the groundwater monitoring plan) to EPA that is consistent with the FFA.

**Response:** The Navy respectfully disagrees that this information should be provided in the ROD. As per Section 9.12 of the FFA for PNS (see the excerpt below), the Navy is required to provide the schedule for submittal of a plan to the USEPA and MEDEP and the approved schedule will be included in the Site Management Plan (SMP) once the ROD is signed. The proposed schedule for the Remedial Action Work Plan and LUC Remedial Design were provided as required to the USEPA in a letter, dated July 28, 2010, that was submitted with the draft ROD. USEPA has not provided notification as to whether the schedule is approved or disapproved.

Excerpt from Section 9.12 of the FFA for PNS:

"Upon submittal of the draft ROD for each Operable Unit, the Navy shall submit to EPA and the State a Remedial Design Schedule, a list of design deliverables for each anticipated Remedial Action, and a submittal date for the Remedial Action Work Plan. The Remedial

Design Schedule shall include proposed regulatory/RAB review periods for each of the design submittals and the Remedial Action Work Plan.

Within fourteen (14) days from receipt of the Navy's proposed Schedule and list of design deliverables, EPA shall notify the Navy in writing as to whether such proposed Schedule and list are approved or disapproved. If EPA approves the proposed Schedule and list, such Schedule shall be incorporated into the SMP at such time that the ROD is finalized..."

21. **Comment:** *Pg. 25, last paragraph:* "Monitoring will be conducted until the Navy, with EPA concurrence, determines that migration of lead-contaminated soil . . ."

**Response:** Based on the review and approval process for primary documents (which includes Remedial Action Monitoring Plans, Long-Term Monitoring Plans, and Close-Out Reports), USEPA would not provide written concurrence. USEPA's approval is obtained through resolution of USEPA comments provided during regulatory review periods on draft and draft final versions of primary documents. The text will be revised as follows, "Monitoring will be conducted until the Navy, as lead agency, and USEPA, as support agency, determine that migration of lead-contaminated soil....".

22. **Comment:** *Pg. 25, § 2.12.2, 2nd paragraph, 4th sentence:* Please change "considered" to "conducted".

**Response:** The Navy respectfully disagrees and no changes will be made to the text. Additional excavation will be considered, not conducted, based on the depth of the excavation. Deeper than the depth for human health exposure, additional soil will not need to be removed to meet the RAO.

23. **Comment:** *Pg. 25, § 2.12.2, 3rd paragraph:* LUC RD is not in glossary.

**Response:** In accordance with the USEPA's Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents (July 1999) the Record of Decision does not include a glossary. However, the acronym will be spelled out as follows on page 2, "Implementation of land use controls (LUCs) through a LUC remedial design (LUC RD) to ensure maintenance of current site features to prevent future residential site use."

24. **Comment:** *Pg. 29, § 3.0, Responsiveness Summary:* SAPL submitted several detailed comments. The Navy has not responded to any of SAPL's comments. Specifically, comment 2 deserves detailed response. Additional comments should be noted.

**Response:** The Navy respectfully disagrees and no changes will be made to the text. Comments received from SAPL on the Proposed Plan were discussed by the Navy and USEPA RPMs during a conference call on July 27, 2010. It was decided that no significant comments were received, and therefore a responsiveness summary is not required.



25. **Comment:** ARARs:

For the chemical-specific Table:

| Medium/<br>Activity     | Requirement/Citation  | Status              | Synopsis  | Evaluation/Action to be<br>Taken   |
|-------------------------|---|---------------------|---|--|
| <b>Federal Guidance</b> |   |                     |   |  |
| Soil                    | Guidelines for<br>Carcinogen Risk<br>Assessment<br>EPA/630/P-03/001F<br>(March 2005)  | To Be<br>Considered | Guidance for<br>assessing<br>cancer risk.   | This alternative will meet<br>these standards by<br>removing, covering, and/or<br>establishing land use<br>controls that will prevent<br>exposure to contaminants<br>that pose carcinogen risks<br>in OU 1.                    |
|                         | Supplemental<br>Guidance for<br>Assessing<br>Susceptibility from<br>Early-Life Exposure<br>to Carcinogens<br>EPA/630/R-03/003F<br>(March 2005)                          | To Be<br>Considered | Guidance of<br>assessing<br>cancer risks to<br>children.  | This alternative will meet<br>these standards by<br>removing, covering, and/or<br>establishing land use<br>controls that will prevent<br>exposure to contaminants<br>that pose carcinogen risks<br>to children in OU 1.        |
|                         | USEPA Carcinogen<br>Assessment Group,<br>Cancer Slope<br>Factors<br>(CSFs)  | To Be<br>Considered | CSFs are used<br>to compute the<br>incremental<br>cancer risk from<br>exposure to site<br>contaminants<br>and represent<br>the most up-to<br>date information<br>on cancer risk<br>from USEPA's<br>Carcinogen<br>Assessment<br>Group. | This alternative will meet<br>these by removing,<br>covering, and/or<br>establishing land use<br>controls that will prevent<br>exposure to contaminants<br>that pose carcinogen risks<br>in OU 1.                              |
|                         | Recommendations<br>of the Technical<br>Review<br>Workgroup for Lead<br>for an Approach to<br>Assessing Risks<br>Associated with<br>Adult<br>Exposure to Lead in<br>Soil | To Be<br>Considered | EPA guidance<br>for evaluating<br>the risks posed<br>by lead in soil.   | This alternative will meet<br>these standards by<br>removing, covering, and/or<br>establishing land use<br>controls that will prevent<br>exposure to lead-impacted<br>soil exceeding adult (and<br>child) risk levels in OU 1. |

| State ARAR |  |                          |  |  |
|------------|--|--------------------------|--|--|
|            | Maine Solid Waste Rules, Lead Management Regulations (06-096 C.M.R. Chapter 424] | Relevant and Appropriate | Regulations establish lead safe standards for soil containing lead – if lead in soil exceeds 375 parts per million (ppm) in bare soil in potential play areas or 1000 ppm in other than play areas, the soil in these areas shall be considered a lead hazard. | Lead-contaminated soil exceeding industrial risk levels will be removed or covered and land use controls will be established to prevent residential exposure to lead contaminated soil in the residential properties that exceeds 375 ppm. |

Regarding the Location-specific ARARs:

The Federal Endangered Species Act is applicable because the Short-nosed Sturgeon does occur in the Piscataqua River - so correct the Action to be Taken text (see <http://www.nmfs.noaa.gov/pr/species/fish/shortnosesturgeon.htm> )

The Navy should check to see if the following standard applied to the current base (does the state have any jurisdiction over filled tide lands on the base property?) These standards would apply if the Navy ever transferred the property with environmental restrictions through a deed.

|   |   |            |  |  |
|---|---|------------|--|--|
| Subtidal, tidal, and filled tidal lands | Submerged and Intertidal Lands Act (12 M.R.S.A. §§ 1861-1867) | Applicable | The statute establishes the State's ownership and management of submerged, intertidal, and filled tidal land throughout the State. | The substantive environmental requirements of this standard will be achieved, including the development of land use restrictions for State-regulated filled tide land within OU-1. |
|---|---|------------|--|--|

For the Action-specific ARARs add to the State ARARs:

|                         |   |            |  |  |
|-------------------------|---|------------|--|--|
| Surface water discharge | Maine Waste Discharge Licenses (38 M.R.S.A. § 413 <i>et seq.</i> ) and Waste Discharge Permitting Program (06-096 C.M.R. Chapter 520-529) | Applicable | These standards regulate the discharge of pollutants from point sources. | These regulations would be applicable to alternatives that require water management during soil excavation and where discharges of treated water to a surface water body may occur. The substantive requirements would be met if any discharges of treated water to surface water bodies are required. |
|-------------------------|---|------------|--|--|

**Response:** The following chemical specific ARARs will not be added to the ROD consistent with the OU1 FS:

- Guidelines for Carcinogen Risk Assessment EPA/630/P-03/001F (March 2005)
- Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens EPA/630/R-03/003F (March 2005)
- USEPA Carcinogen Assessment Group, Cancer Slope Factors (CSFs)
- Maine Solid Waste Rules, Lead Management Regulations (06-096 C.M.R. Chapter 424)

The Navy respectfully disagrees that the Guidelines for Carcinogen Risk Assessment, the Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens, and Carcinogen Assessment Group, Cancer Slope Factors should be added to the ARARs table. These citations were not included as ARARs in the FS report, because there are no carcinogenic COPCs for OU1. Please refer to the Navy's response to USEPA Follow-Up Comment No. 5 on the Draft OU1 FS Report. The response letter is included as Appendix D.3 in the final document dated April 9, 2010.

The Navy respectfully disagrees that the Maine Solid Waste Rules, Lead Management Regulations should be added to the ARARs table. This citation was not included as an ARAR in the FS report, because it is neither applicable or relevant and appropriate for OU1. Please refer to the Navy's response to USEPA Follow-Up Comment No. 6 on the Draft OU1 FS Report. The response letter is included as Appendix D.3 in the final document dated April 9, 2010.

The evaluation/action to be taken will be revised for the Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposure to Lead in Soil. In addition, the evaluation/action to be taken for all other chemical-specific ARARs currently in the ROD will be revised. The USEPA Regional Screening Levels for Chemical Contaminants at Superfund Sites will be removed from the ARARs table because

these values were not used to determine remediation goals at OU1. Revisions to the chemical specific ARARs in Table E-1 are shown below.

| Medium/<br>Activity                   | Requirement/<br>Citation   | Status | Synopsis   | Evaluation/Action To Be<br>Taken  |
|---------------------------------------|--|--------|--|---|
| <b>FEDERAL CHEMICAL-SPECIFIC TBCs</b> |  |        |  |   |
| Soil/Risk<br>Assessment               | OSWER Directive<br>9355.4-12   | TBC    | USEPA has provided recommended methodology for assessing risk caused by exposure to lead in surface soil under residential scenarios.  | <u>The remedy will meet the guideline for residential exposure by establishing land use controls that will prevent residential exposure to soil at OU1 with concentrations greater than the residential remediation goal. Guidelines were used to develop risk-based cleanup levels for lead in soil.</u>   |
| Soil/Risk<br>Assessment               | Recommendations of the Technical Review Workgroup for Lead for an Approach to Assessing Risks Associated with Adult Exposures to Lead in Soil. (USEPA, January 2003) | TBC    | USEPA has provided recommended methodology for assessing risks to adult receptors caused by exposure to lead in soil under residential and commercial/industrial scenarios.  | <u>The guideline was used to develop site-specific remediation goals for adult current and future receptors. The remedy will meet the remediation goals by excavating lead-contaminated soil within the crawl space to reduce lead concentrations to less than the remediation goals. Guidelines were used to develop risk-based cleanup levels for lead in soil.</u> |
| Soil/Risk<br>Assessment               | USEPA Risk RfDs from IRIS  | TBC    | RfDs are estimates of daily exposure for human populations (including sensitive subpopulations) considered unlikely to cause significant adverse health effects associated with a threshold mechanism of action in human exposure over a lifetime. | <u>The RfD for antimony was used to develop the remediation goal for residential exposure to antimony. Excavating lead-contaminated soil within the crawl space will also remove antimony-contaminated soil to reduce antimony concentrations to less than the residential remediation goal. RfDs were used to develop soil cleanup goals for antimony.</u>           |

| Medium/<br>Activity     | Requirement/<br>Citation   | Status | Synopsis  | Evaluation/Action To Be<br>Taken   |
|-------------------------|--|--------|---|--|
| Soil/Risk<br>Assessment | USEPA Regional<br>Screening Levels<br>for Chemical<br>Contaminants at<br>Superfund Sites<br>(RSLs) | TBC    | In 2008, USEPA replaced<br>region-specific risk-based<br>screening levels with<br>RSLs. These are risk-<br>based concentrations for<br>contaminants in soil, air,<br>and tap water to assist<br>risk assessors and others<br>in initial screening-level<br>evaluations of<br>environmental<br>measurements. | USEPA risk-based screening<br>levels were used as screening<br>levels as part of the HHRA for<br>OU1 and were considered as<br>part of the development of soil<br>cleanup goals. |

**STATE CHEMICAL-SPECIFIC ARARs and TBCs: No ARARs or TBCs**

The Navy has researched the Submerged and Intertidal Lands Act (12 M.R.S.A. §§ 1861-1867). This remedy would not impact state-owned filled tide lands, and the state has no jurisdiction over filled tide lands located on base property; therefore, this Act would neither be applicable nor relevant and appropriate to this cleanup. The Federal Endangered Species Act is not applicable to the Selected Remedy because remedial activities will not impact the Piscataqua River.

The Navy respectfully disagrees that the Maine Waste Discharge Licenses (38 M.R.S.A. § 413 *et seq.*) and Waste Discharge Permitting Program (06-096 C.M.R. Chapter 520-529) should be added to the ARARs table. This citation was not included as an ARAR in the FS report. Please refer to the Navy's response to USEPA Comment No. 53 on the Draft OU1 FS Report. The response letter is included as Appendix D.3 in the final document dated September 24, 2009. The USEPA Standards for Hazardous Waste TSD Facilities (40 CFR 264) will be removed from the ARARs table because these standards are applicable to hazardous waste facilities. Because there are no hazardous waste facilities located at OU1 this ARAR would neither be applicable nor relevant and appropriate to this cleanup. The corresponding State regulation, 06-096 CMR 854, will also be removed from the text. Revisions to the Action-Specific ARARs in Table E-1 are shown below.

| Medium/Activity | Requirement/<br>Citation | Status | Synopsis | Evaluation/Action To Be<br>Taken |
|-----------------|--------------------------|--------|----------|----------------------------------|
|-----------------|--------------------------|--------|----------|----------------------------------|

**FEDERAL ACTION-SPECIFIC ARARs and TBCs:**

|                 |  |            |   |  |
|-----------------|--|------------|---|--|
| Hazardous Waste | RCRA Subtitle C, RCRA Regulations for Identification and Listing of Hazardous Waste (40 CFR 261), <u>and</u> Standards Applicable to Generators of Hazardous Waste (40 CFR 262) <u>and</u> Standards for Hazardous Waste TSD Facilities (40 CFR 264) | Applicable | RCRA regulations govern the generation transportation and disposal of hazardous waste. The State of Maine has RCRA delegation, and the Maine Hazardous Waste Management Rules provide references to the federal RCRA regulations where appropriate. | Excavated material <del>would</del> <u>will</u> be analyzed to determine whether it is RCRA characteristic hazardous waste. If it is determined to be hazardous, the material <del>would</del> <u>will</u> be managed, transported, treated, disposed, or stored in accordance with RCRA requirements. Based on the levels of lead in soil in the remediation areas, the excavated material is likely to be hazardous based on toxicity. |
|-----------------|--|------------|---|--|

**STATE ACTION-SPECIFIC ARARs and TBCs**

|                 |   |            |   |   |
|-----------------|---|------------|---|---|
| Hazardous Waste | Maine Hazardous Waste Management Rules (06-096 CMR 800-801, 850 – 853 <del>854</del> , 857) | Applicable | These regulations provide standards for the generation, transportation, treatment, storage, and disposal of hazardous waste. They set forth the state definition and criteria for establishing whether waste materials are hazardous and subject to associated hazardous waste regulations. They also provide standards for detailing groundwater monitoring requirements for hazardous waste facilities. | Excavation, staging, and disposal of hazardous wastes at OU1 <del>would</del> <u>will</u> comply with these standards.                |
| Waste           | Maine Solid Waste Management Regulations (06-096 CMR 400, 411)                              | Applicable | Provides standards for generation, transportation, treatment, storage, and disposal of solid and special wastes. Also provides closure and post-closure maintenance standards.  | Wastes generated during remedial actions <del>would</del> <u>will</u> be disposed at appropriately licensed and permitted facilities. |

| Medium/Activity   | Requirement/<br>Citation  | Status     | Synopsis  | Evaluation/Action To Be<br>Taken   |
|---|---|------------|---|--|
| <b>STATE ACTION-SPECIFIC ARARs and TBCs (continued)</b> |   |            |   |  |
| Erosion   | Erosion and Sedimentation Control (38 MRSA 420-C) and Stormwater Management (38 MRSA 420-D; 06-096 CMR 500) | Applicable | Erosion control measures must be in place before activities such as filling, displacing, or exposing soil or other earthen materials occur. Prior MEDEP approval is required if the disturbed area is in the direct watershed of a body of water most at risk for erosion or sedimentation. | The remedial action design and work plans <del>would</del> <u>will</u> address erosion, sedimentation, and storm water management controls necessary during excavation and staging activities. The MEDEP <del>would</del> <u>will</u> review the remedial design and work plans before implementation. |
| Air Emissions   | Visible Emissions Regulation (38 MRSA 584; 06-096 CMR 101).   | TBC        | These regulations establish opacity limits for emissions from several categories of air contaminant sources, including general construction activities.   | Excavation <del>would</del> <u>will</u> be conducted so that opacity limits would not be impacted. Any measures need to ensure compliance with these standards <del>would</del> <u>will</u> be discussed in the remedial design and work plans.  |

**RESPONSES TO MEDEP COMMENTS DATED AUGUST 26, 2010**  
**DRAFT RECORD OF DECISION FOR OPERABLE UNIT 1**  
**PORTSMOUTH NAVAL SHIPYARD, KITTERY, MAINE**

1. **Comment:** At least two references are missing from the document: USEPA 1999 (p. 9) and Navy Feb 2008 (p. 11). It would be best to have all references included in a separate reference section, i.e. not just selected references in the Detailed Administrative Record Reference Table. Another option would be to add references to the citations listed above as footnotes.

**Response:** References to the FFA (USEPA, September 1999) and NFA document for Site 21 (Navy, February 2008) will be added to the Detailed Administrative Record Reference Table. The Detailed Administrative Record Reference Table is included in the ROD to help the reader find more information about a particular topic related to the site. Based on the USEPA ROD guidance a traditional reference table is not required, and no text will be added to the document.

2. **Comment:** 2.5.2 Conceptual Site Model, p. 12: The first sentence indicates that receptors are shown in Fig. 2-2, Conceptual Site Model. Receptors are not shown in this figure. Please correct.

**Response:** The text will be revised as follows: "Figure 2-2 presents the OU1 conceptual site model, which identifies contaminant sources, contaminant release mechanisms, *and* transport routes, ~~and receptors under current and future land use scenarios.~~"

3. **Comment:** 2.5.2, p. 12: The second paragraph references removal of the old cast-iron pipeline. The OU1 FS indicates this line was abandoned but does not say that it was removed. Please clarify.

**Response:** The sentence will be correct as follows: "The condition of this cast-iron pipeline during its operation and at the time *it was abandoned* ~~of its removal~~ is unknown."

4. **Comment:** 2.7.1, Risk Characterization, p. 17: This section discusses how excess lifetime cancer risk is calculated. However, no carcinogens were identified as COPCs for soil or groundwater at OU1. Therefore it is not clear why there is any discussion of carcinogenic risk in the ROD. Likewise App. D includes "Calculation of Cancer Risk" tables from the HHRA (with the "cancer risk" columns left blank). Do these need to be included?

Also, please indicate in this section that HQ stands for Hazard Quotient.

**Response:** The text will be revised as follows,

"During the risk characterization, the outputs of the exposure and toxicity assessments are combined to characterize the baseline risk at the site if no action was taken to address the contamination. No carcinogenic COPCs were identified at OU1. ~~Potential cancer risks and non-cancer hazards~~ were calculated based on reasonable maximum exposure (RME) scenario that assumes the maximum level of human exposure that could reasonably be expected to occur.

~~For carcinogens, risks are generally expressed as the incremental probability of an~~



~~individual developing cancer over a lifetime as a result of exposure to the carcinogen. Excess lifetime cancer risk is calculated from the following equation:~~

$$\text{Risk} = \text{CDI} \times \text{CSF}$$

~~where: risk = a unitless probability (e.g.,  $2 \times 10^{-5}$ ) of an individual developing cancer~~

~~— CDI = chronic daily intake averaged over 70 years (in mg/kg-day)~~

~~— CSF = slope factor (in mg/kg-day<sup>-1</sup>)~~

~~These calculated risks are probabilities that are usually expressed in scientific notation (e.g.,  $1 \times 10^{-6}$ ). An excess lifetime cancer risk of  $1 \times 10^{-6}$  under an RME scenario indicates that an individual experiencing the reasonable maximum exposure estimate has an “excess lifetime cancer risk” because it would be in addition to the risks of cancer individuals face from other causes such as smoking or exposure to too much sun. The chance of an individual developing cancer from all other causes has been estimated to be as high as one in three. USEPA’s generally acceptable risk range for site-related exposures is  $1 \times 10^{-4}$  to  $1 \times 10^{-6}$ . No carcinogenic constituents were identified as COPCs in soil or groundwater at OU1.”~~

In addition, the tables “Calculation of Cancer Risk” tables from the HHRA (with the “cancer risk” columns left blank) located in Appendix D of the ROD will be removed. The text will be revised to indicate that HQ stands for Hazard Quotient.

5. **Comment:** 2.11 Principal Threat Waste, p. 24: This section states that principal threat wastes are not present at the site since contaminant concentrations are not highly toxic. One could argue that lead concentrations resulting in a 100% probability of a child resident blood-lead level exceeding 10 ug/dL are “highly toxic.” Please provide a better definition of “principal threat wastes” and/or “highly toxic. Does the NCP have a more concise definition?

**Response:** The NCP does not provide a more concise definition, but indicates it needs to be evaluated on a site-specific basis. Please see the Navy’s response to USEPA Comment No. 18 for further information on principal threat wastes.

6. **Comment:** 2.12.2 Description of Selected Remedy, p. 25. This section should include the July 28, 2010 Proposed Remedial Action and Land Use Control Remedial Design Document Schedule that was submitted under separate cover.

**Response:** The schedule that was submitted under separate cover (letter dated July 28, 2010) will be included in the SMP after the OU1 ROD is finalized. Please see the Navy’s response to USEPA Comment No. 20 for additional information.

7. **Comment:** 3.0 Responsiveness Summary, p. 29. USEPA’s 1999 Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents indicates that the Responsiveness Summary should, in part, explain how stakeholder concerns were addressed. SAPL’s concerns were not addressed in this Draft ROD. Indicating that comments related to SAPL’s concerns were addressed in separate documents is not acceptable. Please respond to SAPL’s concerns in the ROD.

**Response:** No revision to the Responsiveness Summary is planned. Please see the Navy’s response to USEPA Comment No. 24 for additional information.